



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
BOARD AND CODE ADMINISTRATION DIVISION  
**NOTICE OF ACCEPTANCE (NOA)**

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION  
11805 SW 26 Street, Room 208  
Miami, Florida 33175-2474  
T (786) 315-2590 F (786) 315-2599  
[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

ITW Buildex  
1349 West Bryn Mawr Avenue  
Itasca, IL 60143

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER-Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

**DESCRIPTION: Tapcon with Advanced Threadform Technology Concrete and Masonry Anchors**

**APPROVAL DOCUMENT:** Drawing No. **06-ITW-0001**, Sheets 1 and 2 of 2, titled "Tapcon Concrete Anchors with Advanced Threadform Technology", dated 06/16/2006, with last revision dated 08/10/2012, prepared by Engineering Express, signed and sealed by Frank L. Bernnardo, P.E., bearing the Miami-Dade County Product Control revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING: None**

**LABELING:** Each box shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **renews and revises** NOA # **11-0616.05** and consists of this page 1 and evidence pages E-1 and E-2, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**



*[Signature]*  
11/30/2012

NOA No. 12-0816.06  
Expiration Date: August 31, 2016  
Approval Date: December 13, 2012  
Page 1

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Drawing No. **06-ITW-0001**, Sheets 1 and 2 of 2, titled "Tapcon Concrete Anchors with Advanced Threadform Technology", dated 06/16/2006, with last revision dated 08/10/2012, prepared by Engineering Express, signed and sealed by Frank L. Bernnardo, P.E.

**B. TESTS *"Submitted under NOA # 07-0315.03"***

1. Tension and Shear Resistance Test of 3/16" SS Tapcon ATFT with Climashield per ASTM E 488, prepared by C.E.L Consulting, Report No. **71B153**, dated 01/31/2007, signed and sealed by Lee W. Mattis, P.E.
2. Corrosion Resistance Test per ASTM G 85 as noted in TAS 114(E), prepared by PRI Construction Materials Technologies, Report No. **ITW-004-02-01**, dated 01/05/2007, signed and sealed by Charles L. Thomas, P.E.

***"Submitted under NOA # 05-1020.01"***


3. Test report on Tension and Shear Resistance, Report No. **4I131** werc for "Wercs Tapcon Concrete/Masonry Screw Anchors" per ASTM E 488, prepared by Cel Consulting on 04/29/2005, signed and sealed by L. W. Mattis, P.E.
4. Test report on Tension and Shear Resistance, Report No. **4I131** werc Supplement 6519 for Tapcon with Advanced Threadform Technology per ASTM E 488 prepared by Cel Consulting on 05/19/2005, signed and sealed by L. W. Mattis, P.E.
5. Test report of corrosion resistance for fasteners, Project No. **ITW-003-02-01, 02, 03 & 04**, for fasteners with Tapcon Plus, Silver Climaseal, Silver Ultrashield and White Ultrashield per ASTM G85 as noted on TAS 114(E), prepared by Cel Consulting on 10/22/2004 and 05/16/2006, signed and sealed by C. L. Thomas, P.E.

**C. CALCULATIONS**

1. Anchors allowable loads calculations prepared by Engineering Express, dated 08/14/2012, signed and sealed by Frank L. Bennardo, P.E.

***"Submitted under NOA # 07-0315.03"***

2. Calculations addendum on new stainless steel anchors, prepared by Engineering Express, dated 03/08/2007, signed and sealed by Frank L. Bennardo, P.E.



11/30/2012

Carlos M. Utrera, P.E.  
Product Control Examiner  
NOA No. 12-0816.06

Expiration Date: August 31, 2016  
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**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**C. CALCULATIONS (Continued)**

***“Submitted under NOA # 05-1020.01”***

3. Calculations of allowable loads for Tapcon with Advanced Threadform Technology, prepared by Engineering Express, dated 06/22/2006, signed and sealed by Frank L. Bennardo, P.E.

**D. QUALITY ASSURANCE**

1. Miami-Dade Department of Regulatory and Economic Resources (RER)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

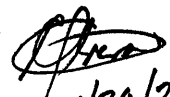
1. Drawing No. **06-ITW-0001** statement of code conformance to 2007 and 2010 FBC issued by Engineering Express, dated 08/14/2012, signed and sealed by Frank L. Bennardo, P.E.

***“Submitted under NOA # 09-0121.19”***

2. Statement letter of code conformance to 2007 FBC issued by Engineering Express, dated 01/05/2009, signed and sealed by Frank L. Bennardo, P.E.

***“Submitted under NOA # 05-1020.01”***

3. No interest letter issued by Engineering Express, dated 06/23/2006, signed and signed by Frank L. Bennardo, P.E.



11/30/2012

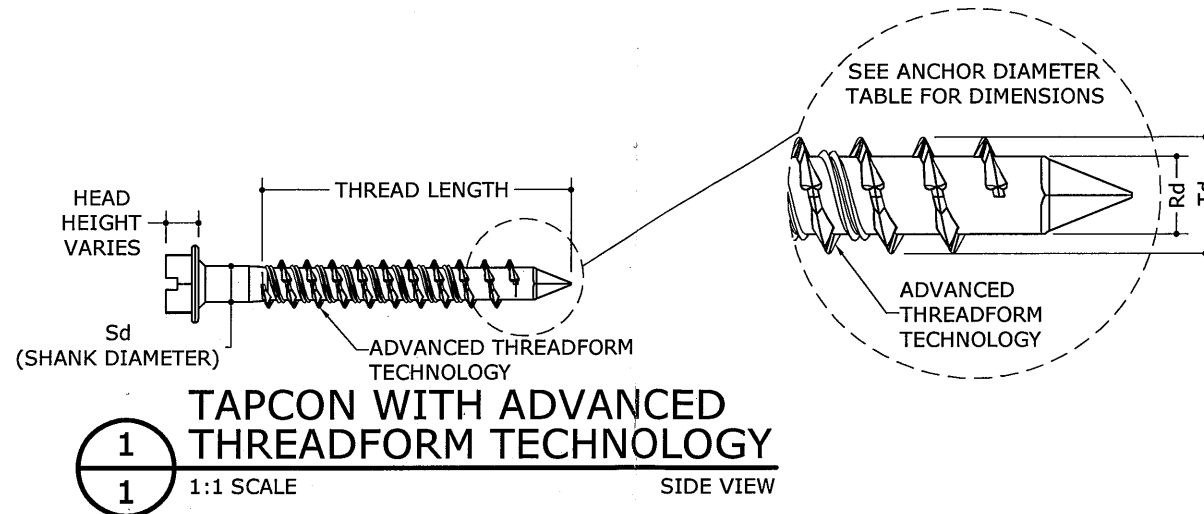
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Carlos M. Utrera, P.E.  
Product Control Examiner  
NOA No. 12-0816.06  
Expiration Date: August 31, 2016  
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# ITW Buildex TAPCON® with ADVANCED THREADFORM TECHNOLOGY™ CONCRETE & MASONRY ANCHOR

## GENERAL NOTES:

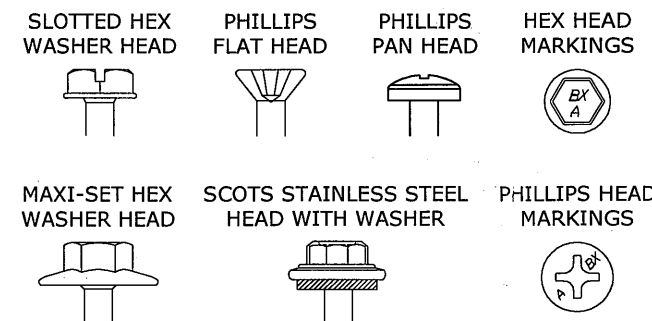
1. THIS PRODUCT HAS BEEN DESIGNED & TESTED IN ACCORDANCE WITH THE STRUCTURAL PROVISIONS OF THE 2007 & 2010 FLORIDA BUILDING CODE, FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE, AND THE FOLLOWING STANDARDS: ASTM E488, ASTM G85, & TAS 114.
2. ANCHOR INSTALLATION SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS AND THIS NOTICE OF ACCEPTANCE.
3. CONCRETE SHALL CONFORM TO ACI 301 SPECIFICATIONS, WITH STRENGTH PROPERTIES AS SPECIFIED HEREIN. CONCRETE BLOCK SHALL CONFORM TO ASTM C-90.
4. ANCHORS REPRESENTED IN TABLES 1-4 ARE MANUFACTURED FROM HEAT-TREATED STEEL WITH AN ALTERNATING HIGH-LOW ADVANCED THREADFORM TECHNOLOGY. ANCHOR YIELD STRENGTH  $F_y=100$  KSI, ULTIMATE STRENGTH  $F_u=125$  KSI. HEAT TREATED STEEL ANCHORS SHALL HAVE THE CORROSION-RESISTANT COATINGS AS DESCRIBED BELOW IN COMPLIANCE WITH THE FLORIDA BUILDING CODE:
  - SILVER & WHITE ULTRASHIELD
  - BLUE & SILVER CLIMASEAL
5. ANCHORS REPRESENTED IN TABLE 5 ARE OF 410 STAINLESS STEEL ALLOY WITH AN ALTERNATING HIGH-LOW ADVANCED THREADFORM TECHNOLOGY AND SHALL HAVE A CLIMASHIELD CORROSION-RESISTANT COATING IN COMPLIANCE WITH THE FLORIDA BUILDING CODE. ANCHOR YIELD STRENGTH  $F_y=100$  KSI, ULTIMATE STRENGTH  $F_u=125$  KSI.
6. PILOT HOLES FOR ALL INSTALLATIONS SHALL HAVE A DEPTH 1/4" LONGER THAN INDICATED EMBEDMENT DEPTH WITH THE FOLLOWING PILOT HOLE SPECIFICATIONS:
  - 6.1. 3/16" ANCHORS: 5/32" TAPCON DRILL BIT
  - 6.2. 1/4" ANCHORS: 3/16" TAPCON DRILL BIT
7. ALLOWABLE LOAD SHOWN=ULTIMATE LOAD DIVIDED BY 4.0 FOR SOLID NON-CRACKED CONCRETE SUBSTRATES, 5.0 FOR HOLLOW BLOCK SUBSTRATES. NO ALLOWABLE STRESS INCREASE HAS BEEN USED IN PREPARATION OF THIS DOCUMENT.
8. ANCHORS SHALL NOT BE INSTALLED IN CRACKED CONCRETE SUBSTRATES, AS DEFINED IN ACI 355.2.
9. ANCHOR EDGE DISTANCES, EMBEDMENTS, AND SPACINGS BELOW THOSE SHOWN IN DESIGN TABLES HEREIN ARE NOT ACCEPTABLE.
10. ALLOWABLE LOAD CAPACITIES TO SUBSTRATES THAT ARE NOT SHOWN IN THE DESIGN TABLES LISTED HEREIN ARE OUTSIDE THE SCOPE OF THIS CERTIFICATION AND SHALL BE DETERMINED BY A LICENSED PROFESSIONAL ENGINEER.
11. ANCHOR VALUES LISTED HEREIN ARE DETERMINED THROUGH TESTING REPORT DATA AND CHECKED FOR CONSISTENCY WITH EACH TEST PERFORMED.
12. REFERENCE THE FOLLOWING TEST REPORTS:
  - CEL CONSULTING
    - #41131werc (4/29/2005)
    - #41131werc SUPPLEMENT 6519 (5/19/2006)
    - #71B153 (01/31/2007)
  - PRI ASPHALT TECHNOLOGIES, INC.
    - #ITW-002-02-01 (12/1/2004)
    - #ITW-003-02-02 (6/15/2006)
    - #ITW-003-02-03 (6/15/2006)
    - #ITW-003-02-04 (6/15/2006)
  - PRI CONSTRUCTION MATERIALS TECHNOLOGIES, INC.
    - #ITW-004-02-01 (11/14/2006)



## TAPCON WITH ADVANCED THREADFORM TECHNOLOGY

ANCHOR DIAMETER					
ANCHOR TYPE	D (NOMINAL DIAMETER)	Sd (SHANK DIAMETER)	MINIMUM BASE PLATE CLEARANCE HOLE DIAMETER	Td (THREAD DIAMETER)	Rd (ROOT DIAMETER)
3/16" TAPCON	0.1875"	0.145"	0.250"	CONTACT ITW BUILDDEX FOR SPECIFIC ANCHOR DIAMETER INFORMATION	
1/4" TAPCON	0.250"	0.190"	0.3125"		

## HEAD STYLE OPTIONS

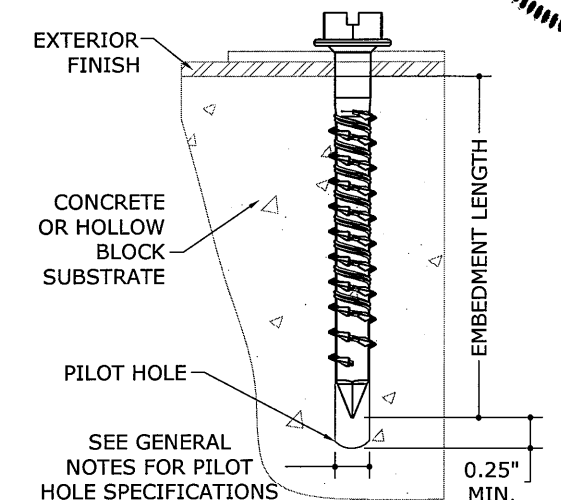


ANCHOR HEAD DIMENSION		
HEAD STYLE	HEAD HEIGHT	HEAD DIAMETER
3/16" PFH	0.120"	0.357"
#12 PFH	0.148"	0.414"
1/4" PFH	0.148"	0.471"

ANCHOR HEAD DIMENSION			
HEAD STYLE	HEAD HEIGHT	ACROSS FLAT	WASHER DIAMETER
3/16" HWH	0.140"	0.246"	0.355"
1/4" HWH	0.180"	0.308"	0.415"
1/4" MAXISET	0.225"	0.308"	0.630"
1/4" SCOTS	0.280"	0.308"	0.587"

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
Acceptance No 12-0816.06  
Expiration Date 08/31/2016

By *[Signature]*  
Miami Dade Product Control

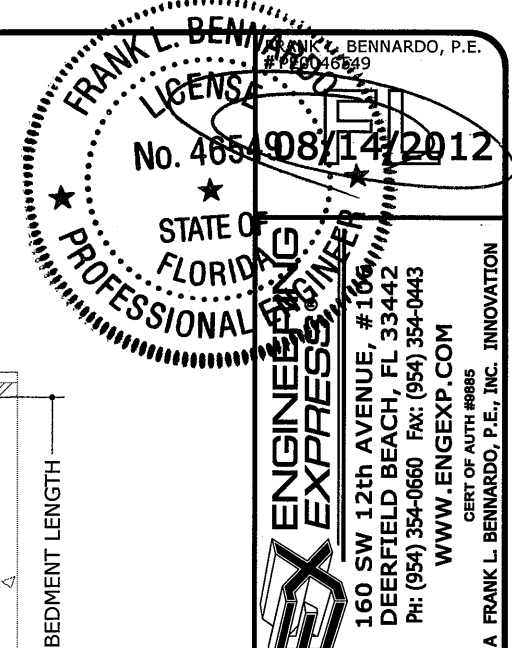


## 2 1 1:1 SCALE SIDE VIEW

PART LENGTH	ANCHOR LENGTH	
	3/16" TAPCON	1/4" TAPCON
1-1/4"	FULL THREAD	FULL THREAD
1-3/4"	1-5/8"	1-5/8"
2-1/4"	1-5/8"	1-5/8"
2-3/4"	1-5/8"	1-5/8"
3-1/4"	1-5/8"	1-5/8"
3-3/4"	1-5/8"	1-5/8"
4"	1-5/8"	1-5/8"
5"		1-5/8"
6"		1-5/8"

PART LENGTH	LONG THREAD ANCHOR LENGTH	
	3/16" TAPCON	1/4" TAPCON
1-3/4"	FULL THREAD	FULL THREAD
2-1/4"	2-1/8"	2-1/8"
2-3/4"	2-1/8"	2-1/8"
3-1/4"	2-1/8"	2-1/8"
3-3/4"	2-1/8"	2-1/8"
4"	2-1/8"	2-1/8"
5"		2-1/8"
6"		2-1/8"

- DESIGNATES UNAVAILABLE LENGTHS



**ITW Buildex**  
Buildex Division of Illinois Tool Works, Inc.  
1349 West Bryn Mawr Avenue  
Itasca, IL 60143

TAPCON CONCRETE ANCHORS WITH  
ADVANCED THREADFORM TECHNOLOGY  
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DATE	DRWN	CHKD
INT ISSUE	6/18/08	CL	FLB
REVISE FOR 07 FBC	12/30/08	TSB	CL
REVISE FOR 10 FBC	08/10/12	CSL	TSB

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06-ITW-0001

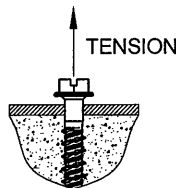
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PAGE DESCRIPTION:

## STEEL ANCHORS TO NORMAL WEIGHT CONCRETE

## 1a TENSION CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING  
FOR **SINGLE** ANCHORS

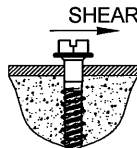
ANCHOR DIAM	EMBED	EDGE DIST	2000 PSI CONC (S=16D)	2000 PSI CONC (S>16D)	4000 PSI CONC (S≥16D)	5000 PSI CONC (S≥16D)
3/16"	1"	1"	125 lb	125 lb	141 lb	141 lb
		1 7/8"	136 lb	164 lb	168 lb	210 lb
	1 1/2"	1"	243 lb	243 lb	279 lb	318 lb
		1 7/8"	268 lb	278 lb	279 lb	327 lb
	1 3/4"	1"	327 lb	358 lb	360 lb	390 lb
		1 7/8"	327 lb	390 lb	401 lb	433 lb
1/4"	1"	1 1/4"	171 lb	174 lb	194 lb	237 lb
		2 1/2"	171 lb	188 lb	199 lb	237 lb
	1 1/2"	1 1/4"	313 lb	313 lb	449 lb	519 lb
		2 1/2"	346 lb	346 lb	454 lb	545 lb
	1 3/4"	1 1/4"	443 lb	465 lb	543 lb	543 lb
		2 1/2"	443 lb	508 lb	594 lb	707 lb



## 1b SHEAR CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING  
FOR **SINGLE** ANCHORS

ANCHOR DIAM	EMBED	EDGE DIST	2000 PSI CONC (S=16D)	2000 PSI CONC (S>16D)	4000 PSI CONC (S≥16D)	5000 PSI CONC (S≥16D)
3/16"	1"	1 1/8"	126 lb	126 lb	150 lb	150 lb
		2 1/4"	176 lb	181 lb	181 lb	226 lb
	1 1/2"	1 1/8"	186 lb	186 lb	186 lb	186 lb
		2 1/4"	196 lb	215 lb	226 lb	226 lb
	1 3/4"	1 1/8"	204 lb	204 lb	204 lb	204 lb
		2 1/4"	218 lb	218 lb	251 lb	260 lb
1/4"	1"	1 1/2"	196 lb	196 lb	310 lb	310 lb
		3"	237 lb	237 lb	340 lb	359 lb
	1 1/2"	1 1/2"	232 lb	232 lb	346 lb	416 lb
		3"	351 lb	368 lb	417 lb	417 lb
	1 3/4"	1 1/2"	303 lb	303 lb	346 lb	500 lb
		3"	421 lb	421 lb	492 lb	500 lb

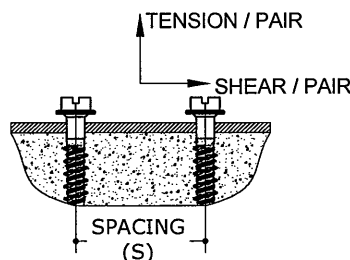


## 2 TENSION, SHEAR CAPACITIES (REDUCED)

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING  
FOR **PAIRS** OF ANCHORS\*

ANCHOR DIAM	EMBED	SPACING (S)	EDGE DIST	2000 PSI CONC OR GREATER	
				TENSION	SHEAR
3/16"	1"	1 1/2"	3"	220 lb	352 lb
		2"		237 lb	352 lb
	1 1/2"	1 1/2"		443 lb	358 lb
		2"		474 lb	369 lb
	1 3/4"	1 1/2"		641 lb	445 lb
		2"		645 lb	455 lb
1/4"	1"	2"	4"	261 lb	447 lb
		3"		302 lb	474 lb
	1 1/2"	2"		533 lb	628 lb
		3"		637 lb	665 lb
	1 3/4"	2"		811 lb	1117 lb
		3"		848 lb	1131 lb

\*REFER TO EDGE DISTANCE AND SPACING DETAIL FOR DEPICTION OF ANCHOR SPACING &amp; EDGE DISTANCE REQUIREMENTS FOR PAIRS OF ANCHORS



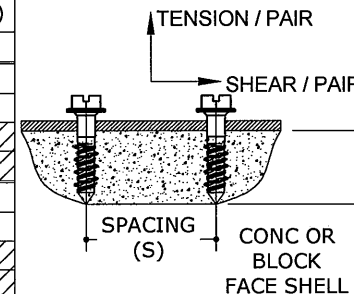
## STAINLESS STEEL ANCHORS

## 5 TENSION &amp; SHEAR CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING  
FOR **PAIRS** OF ANCHORS\*

ANCHOR DIAM	EMBED	EDGE DIST	3000 PSI CONCRETE (S≥16D)		MEDIUM-WEIGHT CMU BLOCK (S≥16D)	
			TENSION	SHEAR	TENSION	SHEAR
3/16"	1"	1"	164 lb	150 lb	54 lb	58 lb
		2 1/2"	164 lb	284 lb	54 lb	99 lb
	1 3/4"	1"	336 lb	169 lb		
		2 1/2"	379 lb	364 lb		
1/4"	1"	1"	187 lb	126 lb	68 lb	51 lb
		2 1/2"	220 lb	301 lb	77 lb	134 lb
	1 3/4"	1"	344 lb	214 lb		
		2 1/2"	473 lb	516 lb		

\*REFER TO EDGE DISTANCE AND SPACING DETAIL FOR DEPICTION OF ANCHOR SPACING &amp; EDGE DISTANCE REQUIREMENTS FOR PAIRS OF ANCHORS



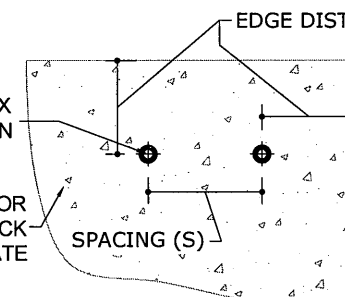
## CAPACITY TABLE NOTES:

- ALLOWABLE LOAD SHOWN=ULTIMATE LOAD DIVIDED BY 4.0 FOR SOLID NON-CRACKED CONCRETE SUBSTRATES, 5.0 FOR CONCRETE MASONRY SUBSTRATES. EMBEDMENT VALUES LISTED CONSIDER FULL EMBEDMENT INTO THE CONCRETE OR HOLLOW BLOCK SUBSTRATE. EMBEDMENT DEPTHS DO NOT CONSIDER THE THICKNESS OF WOOD BUCKS, STUCCO OR ANY EXTERIOR FINISHES. ALL FINISHES SHALL BE BY OTHERS AND SHALL NOT EXCEED 1/8" MAXIMUM, OTHERWISE THEY SHALL BE SEPARATELY CERTIFIED TO TRANSFER ALL LOADING TO THE PROJECT SUPERSTRUCTURE.
- ANCHORS SHALL BE INSTALLED WITH THE MINIMUM CENTER TO CENTER SPACING FOR ANCHOR CAPACITY AS LISTED IN TABLES. NO FURTHER SPACING REDUCTIONS MAY BE APPLIED TO THE VALUES LISTED HEREIN.
- LINEAR INTERPOLATION MAY BE USED FOR EDGE DISTANCE AND SPACING BETWEEN MINIMUM AND MAXIMUM DISTANCES SHOWN IN TABLES.
- HAMMER DRILL NOT ALLOWED FOR HOLLOW BLOCK INSTALLATIONS.
- HOLLOW CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C90 SPECIFICATIONS AND SHALL HAVE DENSITIES AS DEFINED BELOW:
  - "LIGHT WEIGHT" CMU: DENSITY > 95 PCF
  - "MEDIUM WEIGHT" CMU: DENSITY > 117 PCF
- DESIGNATES CONDITIONS WHICH ARE NOT ACCEPTABLE FOR USE.

## PRODUCT REVISED

as complying with the Florida  
Building Code  
Acceptance No 12-0816.06  
Expiration Date 08/31/2016

By *[Signature]*  
Miami Trade Product Control

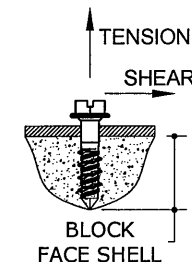
ITW BUILDDEX  
A.T.T. TAPCONCONCRETE OR  
HOLLOW BLOCK  
SUBSTRATEEDGE DIST & SPACING:  
"PAIRS OF ANCHORS"

## STEEL ANCHORS TO HOLLOW BLOCK

## 3 TENSION &amp; SHEAR CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING  
FOR **SINGLE** ANCHORS

ANCHOR DIAM	EMBED	EDGE DIST	LIGHT-WEIGHT CMU BLOCK (S≥16D)		MEDIUM-WEIGHT CMU BLOCK (S≥16D)	
			TENSION	SHEAR	TENSION	SHEAR
3/16"	1"	2"	43 lb	83 lb	68 lb	135 lb
		4"	45 lb	83 lb		147 lb
1/4"	1"	2"	43 lb	108 lb	118 lb	161 lb
		4"	56 lb	125 lb		202 lb

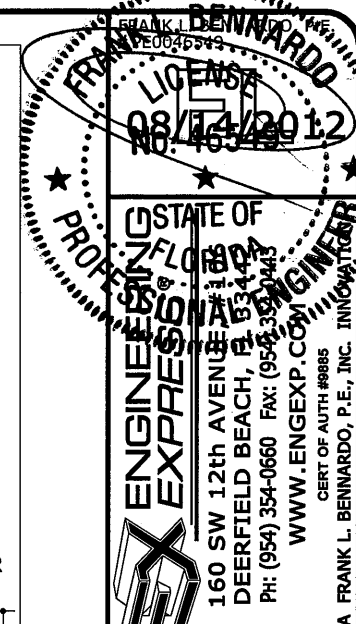
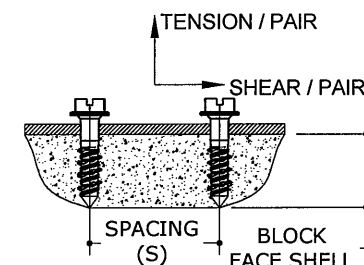


## 4 TENSION &amp; SHEAR CAPACITIES

BASED ON EMBEDMENT, EDGE DISTANCE & SPACING  
FOR **PAIRS** OF ANCHORS\*

ANCHOR DIAM	EMBED	SPACING (S)	EDGE DIST	LIGHT-WEIGHT CMU BLOCK	
				TENSION	SHEAR
3/16"	1"	1 1/2"	3"	103 lb	202 lb
		3"		103 lb	202 lb
1/4"	1"	2"	4"	84 lb	212 lb
		4"		136 lb	224 lb

\*REFER TO EDGE DISTANCE AND SPACING DETAIL FOR DEPICTION OF ANCHOR SPACING &amp; EDGE DISTANCE REQUIREMENTS FOR PAIRS OF ANCHORS



**ITW Buildex**  
Buildex Division of Illinois Tool Works, Inc.  
1349 West Bryn Mawr Avenue  
Itasca, IL 60143

TAPCON CONCRETE ANCHORS WITH  
ADVANCED THREADFORM TECHNOLOGY  
MIAMI-DADE NOTICE OF ACCEPTANCE

REMARKS	DRWN	CHKD	DATE
INIT ISSUE	CL	FLB	6/16/06
REVISE FOR 07 FBC	TSB	CL	12/30/08
REVISE FOR 10 FBC	CSL	TSB	08/10/12

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06-ITW-0001

SCALE: 05  
PAGE DESCRIPTION: